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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,779	03/25/2004	Cem Basceri	MI22-2515	9601

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EXAMINER	
LE, DUNG ANH	
ART UNIT	**PAPER NUMBER**
2818	

DATE MAILED: 07/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/810,779	BASCERI ET AL.	
	Examiner	Art Unit	
	DUNG A. LE	2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 41-45 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 41-45 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

DLe

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections

Independent claim 42.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 42 is rejected under 35 USC 102 (b) as being anticipated by Moskovits et al. (5581091).

Moskovits et al. teaches a circuit construction (figs. 1-2 and related texts) , comprising:

a substrate 10; substantially crystalline electrically insulative material 12 over the substrate; a plurality of openings 14 (fig.1 and related texts) extending within the substantially crystalline electrically insulative material; and electrically conductive material within the openings and corresponding to quantum dots; and wherein the electrically conductive material comprises titanium (col 7, line 15).

Independent claim 43.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 43 is rejected under 35 U.S.C. 103 (a) as being unpatentable over Moskovits et al. (5581091) in view of a following remark.

Moskovits et al. teach a circuit construction (figs 1-2 and related texts) , comprising:

a substrate 10; substantially crystalline electrically insulative material 12 over the substrate; a plurality of openings 14 extending within the substantially crystalline electrically insulative material; and electrically conductive material within the openings and corresponding to quantum dots; and

wherein wide range of electrically conductive materials is available to form the nanowires in the pores of the oxide insulating layer, according to the present invention. The basic criteria for its selection are that it must be a good electrical conductor, and that it must be depositable in the pores of the oxide layer by

practical, acceptable means. It is also preferred that any chosen metal should be one which can readily and controllably be converted to an electrically insulating, or at least less electrically conducting, compound thereof, by relatively simple chemical means such as controlled oxidation. Examples of suitable such preferred metals are nickel, cadmium, bismuth, iron, titanium, niobium, silver, gold, and platinum (col 7, lines 1-15).

Moskovits et al. does not teach wherein the electrically conductive material comprises tungsten.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the electrically conductive material comprises tungsten because the electrically conductive materials such as platinum, titanium... and tungsten are transition metal/high atomic number elements and can be used to obtain equivalent effects, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the chosen application.

Set of claims 44, 41, 45 and 46.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 44, 45 and 46 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Moskovits et al. (5581091) in view of a following remark.

Regarding claim 44, Moskovits et al. teach a circuit construction (figs, 1-2 and related texts), comprising:

a substrate 10;

substantially crystalline electrically insulative material over the substrate 12; a plurality of openings 14 extending within the substantially crystalline electrically insulative material; and

electrically conductive material 22 within the openings and corresponding to quantum dots; and

wherein the substantially crystalline electrically insulative material consists essentially of Al2O3.

Moskovits et al. do not teach wherein the substantially crystalline electrically insulative material consists essentially of Ta2O5.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the substantially crystalline electrically insulative material consists essentially of Ta2O5 because Al2O3 and Ta2O5 are high dielectric constant and can be used to obtain same or equivalent effects, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the chosen application.

Regarding claim 45, wherein the electrically conductive material comprises titanium (col 7, line16 in Moskovits).

Regarding claim 46, Moskovits et al. (5581091) in view of the remark teaches the claimed invention as applied to claim 44 except for the electrically conductive material comprises tungsten.

However, Moskovits teaches wherein wide range of electrically conductive materials is available to form the nanowires in the pores of the oxide insulating layer, according to the present invention. The basic criteria for its selection are that it must be a good electrical conductor, and that it must be depositable in the

pores of the oxide layer by practical, acceptable means. It is also preferred that any chosen metal should be one which can readily and controllably be converted to an electrically insulating, or at least less electrically conducting, compound thereof, by relatively simple chemical means such as controlled oxidation. Examples of suitable such preferred metals are nickel, cadmium, bismuth, iron, titanium, niobium, silver, gold, and platinum (col 7, lines 1-15).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the electrically conductive material comprises tungsten because the electrically conductive materials such as platinum, titanium... and tungsten are transition metal/high atomic number elements and can be used to obtain equivalent effects, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the chosen application.

Claim 41 is rejected under 35 U.S.C. 103 (a) as being unpatentable over Moskovits et al. (5581091) in view of a following remark and further in view of Iwasaki et al. (2001/0028872 A1).

Moskovits et al. (5581091) in view of the remark teaches the claimed invention as applied to claim 44 except for the substrate is a semiconductor

Substrate as cited in current claim 41.

Iwasaki et al. teaches the substrate 11 (fig. 2 and related texts) is a semiconductor substrate.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to utilize the semiconductor Substrate in Mr. Moskovits 's structure/device in order to obtain the best nanostructures to be used in wider application [0011].

When responding to the office action, Applicants' are advice to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the day of this letter. Failure to respond within the period for response will cause the application to become abandoned (see M.P.E.P 710.02(b)).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung A. Le whose telephone number is (571) 272-1784. The examiner can normally be reached on Monday-Tuesday and Thursday 6:00am- 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, M. Smith can be reached on (571) 272-1907. The central fax phone numbers for the organization where this application or proceeding is assigned are (571)272-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DUNG A. LE DLe
Primary Examiner
Art Unit 2818